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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,593	03/15/2001	Rorie O'Neill	CE30513P	5728
7590	06/16/2005		EXAMINER	
Jonathan P Meyer Motorola Inc 1303 East Algonquin Road Schaumburg, IL 60196			DEPPE, BETSY LEE	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/743,593

Applicant(s)

O'NEILL, RORIE

Examiner

Betsy L. Deppe

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection that are necessitated by the amendment.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 6, 7, 9 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kotzin et al. (US Patent No. 5,894,498)
4. With regard to claims 1-3 and 13, Kotzin et al. discloses the claimed invention including a means of generating information symbols (which is inherent to provide information on 102-105), at least one encoder (401 in Figure 4); and a subchannel transmitter (210 in Figure 2). (See column 3, lines 7-25; column 4, line 63 - column 6, line 6) Since coder 401 produces "corresponding base band signals" for the input information signals (see column 6, lines 1-4), it is implicit that the forward error correction scheme is applied to each individual subchannel.

5. With regard to claim 4, Kotzin et al. teaches using a convolutional coding technique (see column 6, lines 4-6). Since convolutional coding involves trellises, Kotzin et al. reads on the limitation of "trellis coding scheme" recited in claim 4.
6. With regard to claims 6 and 7, Kotzin et al. discloses generating compensation data to reduce amplitude variations of the combined signal and a memory unit. (See column 1, lines 64-67 and column 6, lines 7-31) The preprogramming of the base station suggests a memory unit for storing the pre-programmed information/data.
7. With regard to claim 9, Kotzin et al. teaches a receiver that estimates compensation data and evaluates transmission quality. (See column 6, line 56- column 7, line 3)

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotzin et al. as applied to claim 1 above, and further in view of Marshall (US Patent No. 5,502,744).
10. With regard to claim 5, Kotzin et al. discloses the claimed invention except for encoding BPSK information into 8PSK symbols. Marshall teaches using various encoding schemes, such as QAM, QPSK, and 8-PSK, based on considerations such

desired channel gain or reliability. (See column 1, line 28 - column 2, line 7) Therefore, it would have been an obvious design choice to one of ordinary skill in the art at the time the invention was made to encode BPSK information into 8PSK symbols based on system considerations such as desired channel gain versus desired reliability.

11. With regard to claim 10, Kotzin et al. discloses the claimed invention except for uses a different transmission format between subchannels. Marshall discloses using different modulation transmission formats simultaneously. (See Figure 1 and column 2, lines 18-20) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use different modulation transmission formats as disclosed by Marshall in the circuit of Kotzin et al. in order to increase the data transmission rate of the information that requires less reliability.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kotzin et al. as applied to claim 6 above, and further in view of Krueger et al. (US Patent No. 5,982,818). Kotzin et al. discloses the claimed invention except for determining compensation data in response to intersymbol interference.

Since Krueger et al. discloses implementing trellis codes for intersymbol interference channels (see abstract and column 1, lines 6-10), it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the coding technique in Kotzin et al. using intersymbol interference information in order to increase the reliability of the data transmission (see Krueger et al., column 1, lines 7-10) while still meeting the peak-to-average ratio requirements.

13. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotzin et al. as applied to claim 1 above, and further in view of Cimini, Jr. et al. (US Patent No. 6,556,557 B1). Kotzin et al. discloses the claimed invention except for using the invention in an OFDM or CDMA communication scheme.

Cimini, Jr. et al. discloses a system that reduces the peak to average power ratio of an OFDM or CDMA signal. (See abstract and column 2, line 61 - column 3, line 4) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transmitter disclosed by Kotzin et al. in either an OFDM or CDMA system as disclosed by Cimini, Jr. et al. in order to have greater control over reducing the peak to average power ratio in an OFDM or CDMA system.

### ***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Wednesday and Thursday (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Betsy L. Deppe  
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Art Unit 2637